LETTERS TO THE EDITOR

Regarding "Percutaneous embolization of a lumbar pseudoaneurysm in a patient with type IV Ehlers-Danlos syndrome"

I read with great interest the case report by Naidu et al[1] describing a novel percutaneous approach for the treatment of a pseudoaneurysm in a patient with an Ehlers-Danlos type IV syndrome (EDS IV), and I congratulate them for the successful result.

In the discussion of their article, it is stated that an endovascular approach with transarterial coil embolization has been described in a patient with EDS IV and hepatic artery aneurysm, and they cite this paper. I would like to bring to attention that not only has coil embolization but stent grafting has also been reported for the treatment of hepatic artery aneurysm in a patient with EDS IV.

In 2004, we reported case of a 26-year-old woman with EDS IV and hepatic artery aneurysm that was successfully excluded with a 4- × 26-mm balloon-expandable stent graft.[2] A self-expandable stent graft was not considered in that case in order to avoid the continuous tension on the arterial wall. Balloon expandable stents bring the maximal radial force to their maximal diameter, 4 mm in our case. A self-expandable stent would continue to provide continuous radial force in order to bring the diameter of the stent in its final size.

In conclusion, stent graft exclusion of small arteries aneurysms in patients with EDS IV is also feasible. A case of a successful treatment with a balloon-expandable device has been reported.

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Reply

We greatly appreciate the interest from Dr Casana and colleagues regarding our case report describing percutaneous treatment of a pseudoaneurysm in a patient with Ehlers-Danlos type IV (EDS IV) syndrome.[1] We congratulate their results in successfully treating a hepatic artery aneurysm in an EDS IV patient with a balloon-expandable stent graft.[2]

In the case we described, the pseudoaneurysm was not amenable to stent graft placement. It had a wide neck and originated from a very small lumber artery. An aortic stent graft would not have been practical, particularly in this patient, with an occluded aortobifemoral graft.

When the opportunity to use a stent graft arises, the decision between a self-expanding stent and balloon-expandable stent can be difficult. Although a self-expanding stent could have a slow continued radial force on a vessel over a long period of time, a balloon-expandable stent has the disadvantage of increased wall tension during its deployment, which may lead to vessel injury in these patients with very friable tissue. Clearly, appropriate sizing is mandatory for either stent graft type. In another case report, by Tonnessen et al, an iliac artery aneurysm in a patient with EDS IV was successfully repaired using a self-expanding stent graft.[3]

Each of these challenging patients presented with differing anatomy and circumstances requiring an individualized approach. Fortunately, numerous percutaneous and endovascular options are available.

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Regarding "Screening for abdominal aortic aneurysm in Canada"

We gratefully appreciate Drs Mastracci and Cinà's reply[1] to our Letter to the Editor[2] regarding their review article.[3] Although they hypothesize in the reply that a reduction in lifestyle-related cardiovascular risk factors, which are addressed when the participants access medical care for screening, may decrease all-cause mortality in the screened population, the original studies were not meant or powered to prove this hypothesis.[1] If the hypothesis is valid, nonaneurysm-related deaths are distributed in attenders for screening less than in nonattenders for screening or in uninvited controls.

Midterm nonaneurysm-related mortality in attenders for screening, nonattenders for screening, and uninvited controls was reported in all the four trials: mean 4.3-year follow-up[4] in the Viborg Country study, median 3.6-years follow-up[5] in the Western Australia study, mean 2.5-year follow-up[6] in the Chichester study (men), and mean 4.1-year follow-up[7] in the Multicenter Aneurysm Screening Study (MASS) (Table). Pooled analysis of the four trials (representing 125,576 participants) demonstrated a statistically significant 50% reduction in midterm nonaneurysm-related mortality with attenders for screening (9.73%) relative to nonattenders for screening (17.46%) in a random-effects model (odds ratio, 0.50; 95% confidence interval, 0.48-0.53). Attenders for screening was associated with a statistically significant 23% reduction in midterm nonaneurysm-related mortality relative to uninvited controls (12.37%) (odds ratio, 0.77; 95% confidence interval, 0.65-0.90).

Fewer nonaneurysm-related deaths in attenders for screening may be a result of lifestyle changes (diet, smoking, and exercise) among participants who were screened (although no specific advice was given) or treatment of high blood pressure given by the family physician after measurements taken with the scan.[8] Another explanation could be that people who refuse screening are older and would be expected to include a high proportion of those unwell from other causes.[6]

However, because the merely two trials (median 9.6-year follow-up[9] in the Viborg Country study and over 15-year follow-up[10] in the Chichester study [men]) (representing 18,679 participants) reported long-term nonaneurysm-related mortality in at-